

August 22, 2017

Tom Moe
USS Corporation
P.O. Box 417
8771 Park Ridge Dr
Mountain Iron, MN 55768

RE: Project: NPDES-Line 3 Wkly 7/26/17
Pace Project No.: 1292702

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on July 26, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods
melisa.woods@pacelabs.com
(218)742-1042
Project Manager

Enclosures

cc: Bethany Given, USS Corporation
Terri Sabetti, NTS



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: NPDES-Line 3 Wkly 7/26/17

Pace Project No.: 1292702

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: UST-078
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: MN00064
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064

Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #: 74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970
Wyoming via EPA Region 8 Certification #: 8TMS-L

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
California Certification #2973
Montana Certificate #CERT0103
California Certification #2973
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445
North Dakota Certification: # R-203
Wisconsin DNR Certification #: 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842018-1
Oklahoma Department of Environmental Quality
California Certification #2973

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SAMPLE SUMMARY

Project: NPDES-Line 3 Wkly 7/26/17

Pace Project No.: 1292702

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1292702001	WS-002 Scrubber Make-Up	Water	07/26/17 08:45	07/26/17 16:30
1292702002	WS-003 Thickener Overflow	Water	07/26/17 08:35	07/26/17 16:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: NPDES-Line 3 Wkly 7/26/17

Pace Project No.: 1292702

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1292702001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	KEO	1	PASI-M
1292702002	WS-003 Thickener Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	KEO	1	PASI-M

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ANALYTICAL RESULTS

Project: NPDES-Line 3 Wkly 7/26/17

Pace Project No.: 1292702

Sample: WS-002 Scrubber Make-Up Lab ID: 1292702001 Collected: 07/26/17 08:45 Received: 07/26/17 16:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	55.9	mg/L	5.0	0.91	10	07/27/17 14:25	07/28/17 12:44	7440-70-2	
Magnesium, Dissolved	235	mg/L	5.0	0.68	10	07/27/17 14:25	07/28/17 12:44	7439-95-4	
Total Hardness, Dissolved	1110	mg/L	100	5.0	10	07/27/17 14:25	07/28/17 12:44		
300.0 IC Anions Analytical Method: EPA 300.0									
Sulfate	843	mg/L	24.0	5.4	20		08/18/17 21:23	14808-79-8	

Sample: WS-003 Thickener Overflow Lab ID: 1292702002 Collected: 07/26/17 08:35 Received: 07/26/17 16:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	772	mg/L	5.0	0.91	10	07/27/17 14:25	07/28/17 12:48	7440-70-2	
Magnesium, Dissolved	70.4	mg/L	5.0	0.68	10	07/27/17 14:25	07/28/17 12:48	7439-95-4	
Total Hardness, Dissolved	2220	mg/L	100	5.0	10	07/27/17 14:25	07/28/17 12:48		
300.0 IC Anions Analytical Method: EPA 300.0									
Sulfate	1540	mg/L	24.0	5.4	20		08/18/17 21:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NPDES-Line 3 Wkly 7/26/17

Pace Project No.: 1292702

QC Batch: 120758

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1292702001, 1292702002

METHOD BLANK: 479100

Matrix: Water

Associated Lab Samples: 1292702001, 1292702002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	0.091	07/28/17 11:54	
Magnesium, Dissolved	mg/L	ND	0.50	0.068	07/28/17 11:54	

LABORATORY CONTROL SAMPLE: 479101

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	50.5	101	85-115	
Magnesium, Dissolved	mg/L	50	50.5	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 479102

479103

Parameter	Units	1292639001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	38.7	50	50	92.2	90.9	107	104	70-130	1	20	
Magnesium, Dissolved	mg/L	52.9	50	50	106	105	106	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 479104

479105

Parameter	Units	1292640001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	26.0	50	50	75.9	75.2	100	98	70-130	1	20	
Magnesium, Dissolved	mg/L	51.9	50	50	102	100	100	97	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NPDES-Line 3 Wkly 7/26/17

Pace Project No.: 1292702

QC Batch: 491873

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1292702001, 1292702002

METHOD BLANK: 2676495

Matrix: Water

Associated Lab Samples: 1292702001, 1292702002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.27	08/18/17 08:44	

LABORATORY CONTROL SAMPLE: 2676496

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	12.5	11.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2676497 2676498

Parameter	Units	1292863003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	16.5	125	125	140	140	99	99	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2676499 2676500

Parameter	Units	1292863004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	26.1	125	125	148	148	97	98	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: NPDES-Line 3 Wkly 7/26/17

Pace Project No.: 1292702

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-V Pace Analytical Services - Virginia

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES-Line 3 Wkly 7/26/17

Pace Project No.: 1292702

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1292702001	WS-002 Scrubber Make-Up	EPA 200.7	120758	EPA 200.7	120844
1292702002	WS-003 Thickener Overflow	EPA 200.7	120758	EPA 200.7	120844
1292702001	WS-002 Scrubber Make-Up	EPA 300.0	491873		
1292702002	WS-003 Thickener Overflow	EPA 300.0	491873		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed.

W0# : 1292702

PM: MMW Due Date: 08/09/17
CLIENT: USS CORP

Section A

Required Client Information:

Company: USS Corporation
Address: P.O. Box 417
Mtl. Iron, MN 55768
Email:
Phone: Fax:
Requested Due Date:

Section B

Required Project Information:

Report To: Tom Moe
Copy To:
Purchase Order #:
Project Name: NPDES-LINE 3 Wkly
Project #:

Section C

Invoice Information:

Attention:
Company Name:
Address:
Phone:
Fax:
Requested Analysis Filtered (Y/N)

Regulatory Agency
State / Location

ITEM #	MATRIX	CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analyses Test	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	L.F.L.F
					DATE	TIME			DATE	TIME	Unpreserved	H2SO4	HNO3	HCl	NaOH					
1	WS-002 Scrubber Make-Up	WT	WT	WT	7/26/17	0845	0835													
2	WS-003 Thickener Overflow	WT	WT	WT																
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				


SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

THOMAS A. MOE
7/26/17

TEMP in C
Received on Ice (Y/N)
Custody Sealed Cooler (Y/N)
Samples Intact (Y/N)

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 15Mar2016 Page 1 of 1
	Document No.: F-VM-C-001-Rev.10	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: USS

Project #: WO# : 1292702

PM: MMW

Due Date: 08/09/17

CLIENT: USS CORP

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No

Seals Intact? ☐ Yes ☐ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: _____

Temp Blank? ☐ Yes ☒ No

Thermometer Used: ☒ 140792808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.7 Cooler Temp Corrected °C: 2.0
Temp should be above freezing to 6°C Correction Factor: -0.3

Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Date and Initials of Person Examining Contents: MMW 7/26

Comments: _____

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If Fecal: <input type="checkbox"/> <8 hours <input type="checkbox"/> >8, <24 hours <input type="checkbox"/> >24 hours
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
- Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE ☐ Y ☒ N

TEMPERATURE WAIVER ON FILE ☐ Y ☒ N

Project Manager Review: [Signature]

Date: 7-26-17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)